NOTES ON SOME SPECIES OF OTHONNA.

By Margaret R. Levyns.

In a list of the plants of the Cape Peninsula published in 1904, Bolus and Wolley Dod included *Othonna perfoliata* (=*Doria perfoliata* Thunb.) and *Othonna Lingua* L.f., but expressed doubt as to whether the plants cited by them under these two names were distinct. In the Flora Capensis, where these two species are placed in Doria, *D. Lingua* is said to differ from *D. perfoliata* in its reddish pappus and less pubescent achenes. Recent examination of a very large number of plants has shown that the colour of the pappus is variable, ranging from a deep, reddish-purple to a dirty white, and cannot be regarded as having a specific value. In all the achenes examined the pubescence was remarkably uniform. There seems to be no justification for the recognition of two species on the Cape Peninsula and in this account all the plants hitherto placed in the two will be treated as one polymorphic species.

The first descriptions of *Othonna Lingua* and *Othonna perfoliata* were drawn up by the younger Linnaeus and published in the Supplementum Plantarum in 1781, the former species in the genus Othonna and the latter in Cineraria. In both cases the description is too short and imperfect to serve as a guide to the identity of the plants seen by Linnaeus. These had been collected by Thunberg, but there is no evidence available at the present time to indicate that the plants present in Thunberg's herbarium are those described by Linnaeus. No specimens have been preserved in the Linnaean collection and consequently it must be assumed that no type specimen exists. In 1797 Jacquin in Plantarum Rariorum Horti Schoenbrunnensis, Vol. II, described and figured *O. Lingua* L.f., *O. perfoliata* (L.f.) Jacq. and *O. filicaulis* Jacq. Jacquin's figures are good and there can be little doubt that his drawings are accurate representations of the plants that he saw. Only one of these plants grows on the Cape Peninsula, namely, *O. filicaulis*. The whole plant shown in Fig. 201 is an excellent representation of a fairly vigorous specimen, and it will be noted that ligulate flowers are not shown though the scale is large enough to have indicated them clearly. In the enlarged drawing of one of the marginal flowers, however, a very long and narrow ligulate corolla is shown. This dissection cannot have been made from one of the capitula represented on the whole plant, and it must remain doubtful as to whether this ligulate flower came from an exceptional capitulum of this species or was drawn from another species. There are some grounds for supposing that an exceptional capitulum may have developed in the artificial conditions under which the plants must have been grown in Vienna. Fig. 1 indicates the range of variation in the corolla of the marginal flowers drawn from plants growing under natural conditions in the Cape Peninsula. Variations of the kind figured have been noted whenever a sufficiently large number of specimens from any one locality have been examined. In no locality has the corolla been found to be constant in size or form. Fig. 1, *a* shows a rather rare type in which the corolla has been reduced to a small ring at the base of the style. In the few cases where this type has been seen the whole capitulum has been rather smaller than usual. Fig. 1, *b* is the type most commonly found. Fig. 1, *c* shows a long corolla abruptly truncate at the top as in the previous case. Fig. 1, *d* shows a corolla widening slightly at the top. This feature may appear in a corolla of any length. Fig. 1, *e* has a zygomorphic corolla which is fleshy throughout. Fig. 1, *f* shows a flower of a type which was only seen once in a plant collected at Muizenberg. In this exceptional flower a small, membranous, ligulate portion was developed, suggesting a rudimentary ray. All the other flowers in the same capitulum were of the usual truncate type. From these observations it seems possible that the capacity to form rays is latent in these rayless species of Othonna, and in view of the considerable plasticity in the corollas under normal condi-

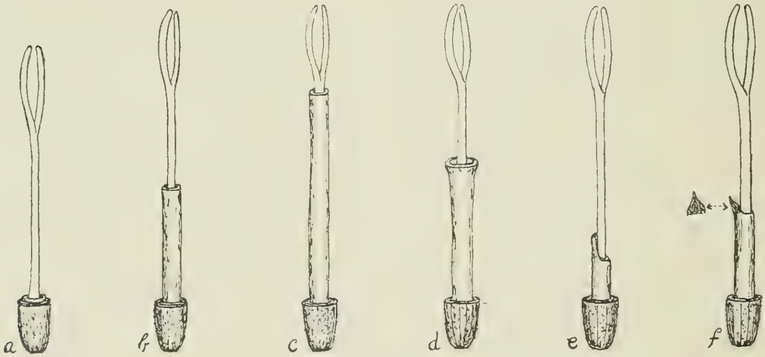

Fig. 1. Different types of corolla found on the marginal flowers of *Othonna filicaulis* Jacq. (pappus removed) × 6.

tions the author feels that it would be unwise to dismiss as an impossibility the ligulate flower drawn by Jacquin. With the exception of the ligulate flower the rest of Jacquin's plate fits this species of Othonna well.

According to Jacquin's interpretation neither *O. Lingua* nor *O. perfoliata* occurs on the Cape Peninsula. The author has not seen any species of Othonna which agrees with the figure of *O. Lingua*, though there is a possibility that it may represent an abnormal plant of *O. digitata* L.f. which is very variable in the incisions of its leaves and which in exceptional cases may have all its leaves entire. The figure of *O. perfoliata* agrees well with a plant which appears to be common, scrambling among bushes in sheltered places in the south-western districts outside the Cape Peninsula.

As there is no type specimen in existence and the description in the Supplementum Plantarum is wholly inadequate, Jacquin's figures and descriptions may be accepted as representing the two Linnaean species, *Othonna Lingua* and *Cineraria perfoliata*, and his own species *O. filicaulis*. There is no ambiguity at all up to this point. Subsequent troubles in identification date from 1800. In that year Thunberg established the unsatisfactory genus Doria for the rayless Othonnas, and retained Othonna for species with rays. *O. Lingua* L.f. was kept with the Othonnas but Harvey who saw a specimen in Thunberg's herbarium states that Thunberg's plant is not this species at all but *O. tuberosa* Thunb. De Candolle and Harvey both quote Jacquin's figure as *O. Lingua* L.f., and it remains for future collectors to discover if this species is to be found in the wild state. Thunberg transferred *Cineraria perfoliata* L.f. to Doria, which indicates clearly that the plant he had in mind was not the one figured as *Othonna perfoliata* by Jacquin, but is almost certainly *O. filicaulis* Jacq. De Candolle accepted Thunberg's definition of *Doria perfoliata* and created a new species for *Othonna perfoliata* Jacq. which became *O. amplexifolia* DC. Harvey in the Flora Capensis followed De Candolle. However, it seems obvious that as Jacquin was the first person to define these two plants clearly his names must stand, *viz.*, *O. perfoliata* for the rayed species and *O. filicaulis* for the rayless one.

As *O. filicaulis* Jacq. is polymorphic it is desirable to put on record some of the features exhibited by it on the Cape Peninsula. In sandy places on the flats, when growing in open places, the plants usually remain small and branch little. On the lower mountain slopes and elsewhere when growing under bushes (a favourite habitat) the plants may become much larger and branch freely as in Jacquin's illustration. At Llandudno, where the plants grow among bushes near the seashore, they become unusually large and fleshy. After examining plants from a wide range of localities it is evident that the small, unbranched forms merge gradually into the larger branched ones, and no sharp line of demarcation is possible.

The tuber lies dormant till the first winter rains have fallen. The first leaf to appear is borne directly on the tuber (Fig. 2, *a*) and has a long stalk the morphology of which would repay investigation. In form it is much broader than the later formed leaves and is usually cordate at the base. The subsequent leaves are borne on the aerial stem and with few exceptions are quite sessile. In addition to the aerial stems horizontal ones are produced from the tuber and run along just below the surface of the soil. These root at the nodes and new tubers are sometimes formed there as well as upright shoots (Fig. 2, *b*). This habit accounts for the fact that these plants are so often found growing in dense masses.

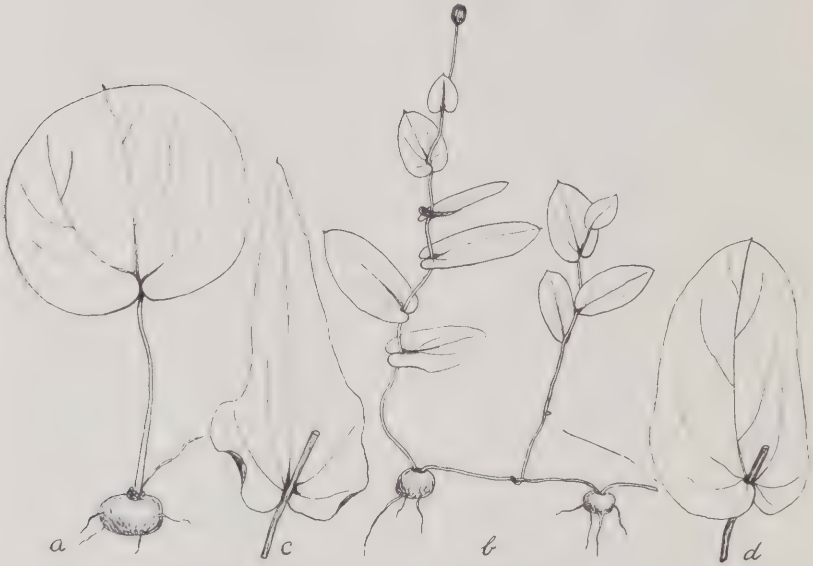

FIG. 2. *Othonna filicaulis*. *a*. Tuber producing a single leaf × ½. *b*. A small plant showing creeping and aerial stems, and tubers × ½. *c* and *d*. Two leaves taken from a large branching plant, *c* from the portion of the axis bearing the capitula, and *d* from near the base × ½.

The leaves vary much in shape. In small plants, with unbranched axes, the leaves usually have a shape similar to that depicted in Fig. 2, *b*. In larger plants the shape may alter considerably, as will be seen in

Fig. 2, *c* and *d*, where two leaves taken from the same plant are illustrated. Fig. 2, *c* is from the upper part and Fig. 2, *d* from near the base of the stem.

Othonna stenophylla Levyns nov. nom. The name *O. linifolia* L.f. is an invalid one for the tuberous Othonna to which it is at present attached. When the younger Linnaeus first published this name in 1781 it had already been used by Burmann f. in his Flora Capensis (1768). Burmann's plant subsequently became *Euryops tenuissimus* Less., but that fact does not make the present use of the name legitimate. A new name has therefore to be found for *O. linifolia* L.f. and it is proposed to call this species *O. stenophylla*.

OTHONNA BULBOSA L.—In the species Plantarum, ed. 1, a tuberous Othonna, is described by Linnaeus as *Othonna bulbosa*. He cites as references (*a*) Breyn. Cent. t. 66 and (*b*) Moris. Hist. 3 p. 111 s. 7, t. 17, f 33. Breyne's figure is an excellent one and there is no doubt about the plant he intended to represent. The author has not been able to consult Morison's figure, but in discussing it in connection with Fig. 768 in the *Botanical Magazine*, Sims writes " quae est Breynii figura contracta ". Therefore, the plant Linnaeus intended as *O. bulbosa* in the first edition of the Species Plantarum is quite clear. There is a specimen of *O. bulbosa* in the Linnaean herbarium but it was not named by Linnaeus himself and even if it should turn out to be one of the other Othonnas, it would not affect the present position. In the second edition of the Species Plantarum Linnaeus included under *O. bulbosa* an assortment of widely differing Othonnas, and it is presumably owing to this that the name was subsequently dropped in order to avoid confusion. *O. tuberosa* Thunb. is the name at present given to this species, but in view of the evidence adduced above showing that Linnaeus had one plant in mind when he first described *O. bulbosa* the original Linnaean name must be upheld and *O. tuberosa* Thunb. treated as a synonym.

The name *Othonna parviflora* L. Mant. 1 89 is antedated by *O. parviflora* Berg. Bergius' plant is not the plant occurring on the Cape Peninsula, hitherto known as *O. parviflora* L. It seems probable that the earliest name for our common Peninsula plant is *O. quinquedentata* Thunb., but a final decision must be delayed until it is possible to consult a specimen in the Linnaean herbarium, as it is possible that *Senecio rigens* L. is this plant.

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